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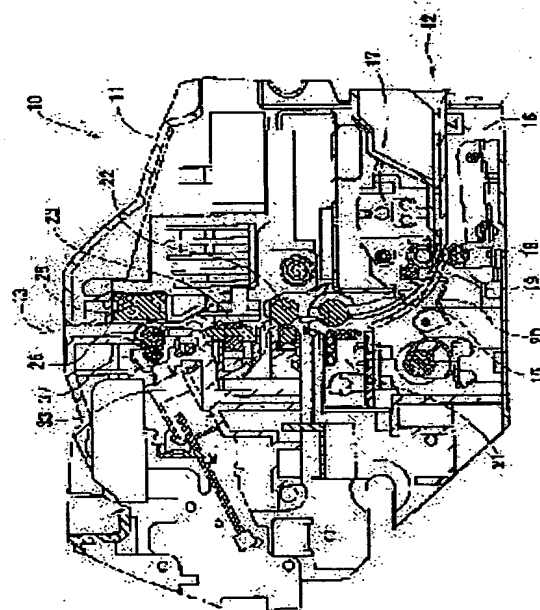
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1) COMPOUND PROCESSOR AND CONTROL METHOD THEREFOR

7)Abstract:

PROBLEM TO BE SOLVED: To reduce the operational burden of an operator and to shorten time required for processing when performing a series of processing of a check or the like from reading processing of magnetic ink characters to scan processing of a printing face.

SOLUTION: A compound processor 10 is provided with a conveying route 15 for guiding a check P, an MICR head 17 located along with the conveying route 15 for reading the magnetic ink characters previously recorded on the check P, a front printing head 23 located along with the conveying route 15 for printing on the front side of the check P, a rear printing head 21 located along with the conveying route 15 for printing on the rear side of the check P, and a scanner 19 located along with the conveying route 15 for scanning the front side of the check P.



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DETAILED DESCRIPTION

Detailed Description of the Invention]

[001]

[Field of the Invention] This invention relates to a compound processor and its control approaches, such as a check processor which processes reading processing (MICR: Magnetic Ink Character Recognition) of a magnetic ink character, printing processing of a need matter, the scanning and processing of a printing side, etc. complexly, to a check.

[002]

[Description of the Prior Art] In shopping in a commercial transaction or a store, settlement of accounts may be performed using a check. Generally, on the surface of a check, the account number etc. is printed as magnetic-ink alphabetic data, and effective and the invalid of a check are checked by referring for these data.

[003] Conventionally, when a check is received at a store etc., after checking the effectiveness of a check, endorsement matters, such as an authentication number, are printed by the printer at the rear face of a check (endorsement printing). On the other hand, although he was writing table writing matters, such as the amount of money, on the front face of a check where this table writing is also printed by the printer is usually increasing in recent years.

[004] Moreover, although the check which the processing in a store etc. finished is carried in by settlement-of-accounts engines, such as a bank, and final settlement-of-accounts processing is performed, in recent years, increasing the efficiency of settlement-of-accounts processing is advocated by transmitting the electronic data of the contents of dealings, the image data of the check (what printed the need matter) read with the scanner, etc. to a settlement-of-accounts engine.

[005]

[Problem(s) to be Solved by the Invention] However, if the scanning and processing of a printing side and transmitting processing of the contents of dealings or scanning image data will be performed with another equipment in addition to the processing from the former, such as reading processing of a magnetic ink character, and printing processing of a need matter, the processing instead of **** to which actuation of an operator becomes complicated will take a long time, and the installation tooth space of equipment must newly be secured.

[006] The purpose of this invention is to offer the compound processor which can shorten the time amount which processing takes, and its control approach while mitigating an operator's actuation burden by performing continuously a series of processings of the check from reading processing of a magnetic ink character to the scanning and processing of a printing side etc.

[007]

[Means for Solving the Problem] In order to attain said purpose the compound processor of this invention The conveyance path which leads a printing medium, and the magnetic head which reads the magnetic ink character which has been arranged in accordance with said conveyance path, and was beforehand recorded on said printing medium, The 1st print head which is arranged in accordance with said conveyance path, and prints to the 1st field of said printing medium, It is arranged in accordance with said conveyance path, and it has the 2nd print head which prints to the 2nd field of said printing medium, and the scanner which is arranged in accordance with said conveyance path, and scans the 1st or 2nd field of said printing medium, and is constituted.

[008] Moreover, it is formed in the end side of said conveyance path, and it has further insertion opening with which said printing medium is inserted, and the exhaust port by which it is formed in the other end side of said conveyance path, and said printing medium is discharged, said magnetic head is arranged rather than said 1st and 2nd print heads at said insertion opening side, and, as for said scanner, it is desirable to be arranged rather than said 1st and 2nd print heads at said discharge side. In this case, not **** that can take out a printing medium from equipment, being able to

perform reading processing of a magnetic ink character in the process in which the printing medium set to insertion opening is carried in in equipment, and also performing scanning and processing, consequently shortens a conveyance path, and can attain the miniaturization of equipment but the processing time can be shortened.

009] Moreover, said insertion opening is constituted possible [insertion to an abbreviation horizontal direction] in said printing medium, and, as for said exhaust port, it is desirable that an abbreviation perpendicular direction constitutes said printing medium possible [discharge]. In this case, equipment can be miniaturized as compared with the case where a conveyance path is constituted linearly, and, moreover, the printing medium which a series of processings ended can be held using the trailer of a conveyance path.

010] Moreover, it is desirable to have further the roller evacuation device in which it is arranged in the opposite location of said scanner, evacuate the press delivery roller conveyed while pushing said printing medium against said scanner, and said press delivery roller from said scanner, and said conveyance path is opened. In this case, by evacuating a press delivery roller at the time of non-scanning and processing, the connection of a printing medium to press delivery roller can be avoided, and generating of a jam and gap of a delivery pitch can be prevented.

011] Moreover, it is desirable to have further the 1st processing control means discharged after scanning said printing medium, the 2nd processing control means discharged without scanning said printing medium, and a processing selection means to choose the 1st or 2nd processing control means. In this case, the existence of scanning and processing can be chosen according to the class of printing medium, or a customer's hope, performing continuously two or more processings including scanning and processing.

012] In order to attain said purpose moreover, the control approach of the compound processor of this invention is the process which reads a magnetic ink character by said magnetic head while conveying said printing medium which is the control approach in a compound processor given in any of claims 1-6 they are, and was inserted from said insertion opening in said direction of an exhaust port, The process which conveys said printing medium to the printing starting position by said 1st print head after reading termination of said magnetic ink character, The process which prints to the 1st field of said printing medium by said 1st print head while conveying said printing medium in the predetermined direction, The process which conveys said printing medium to the printing starting position by said 1st print head after the printing termination by said 1st print head, The process which prints to the 2nd field of said printing medium by said 2nd print head while conveying said printing medium in the predetermined direction, After the printing termination by said 2nd print head, it has the process which conveys said printing medium to a scanning starting position with said scanner, and the process which scans the 1st or 2nd field of said printing medium with said scanner while conveying said printing medium in said direction of an exhaust port, and is constituted.

013] Moreover, in the printing process by said 1st or 2nd print head, it is desirable to convey said printing medium in said direction of insertion opening. In this case, making a printing medium go within a conveyance path, by performing a series of processings, a conveyance path can be shortened and the miniaturization of equipment can be attained.

014]

[Embodiment of the Invention] Hereafter, 1 operation gestalt of this invention is explained along with a drawing. Drawing 1 is the perspective view of the compound processor concerning 1 operation gestalt of this invention. As shown in this drawing, the compound processor 10 is covered with the covering 11 made of resin, and while the insertion opening 12 which inserts Check P by manual bypass is formed in that front section, the exhaust port 13 which discharges Check P is formed in the top-face section. Furthermore, the compound processor 10 of this operation gestalt equips the posterior part with the roll-sheet stowage (not shown) which contains a roll sheet, and the roll sheet contained by this roll-sheet stowage is pulled out from the roll-sheet exhaust port 14 of the equipment top-face section through the printing section.

015] Drawing 2 is the sectional side elevation showing the internal structure of a compound processor. As shown in this drawing, the conveyance path 15 of the check P from the insertion opening 12 to an exhaust port 13 is formed in the interior of the compound processor 10. While the insertion opening 12 side is horizontally suitable, the exhaust port 13 side is perpendicularly suitable, and bends the conveyance path 15 in the shape of L character in side view. In the conveyance path 15, sequentially from the insertion opening 12 side the form back end detector 16, the MICR read (magnetic head) 17, and the 1st -- delivery roller pair 18, the form tip detector 19, the forms alignment member 20, the flesh-side print head (the 2nd print head) 21, and the second -- delivery roller pair 22 and the front print head (the 1st print head) 23 -- form discharge detector 24 And a scanner 25 is arranged and the scanner delivery roller (press delivery roller) 26 is further formed in the opposite location of a scanner 25.

016] The form back end detector 16, the form tip detector 19, and the form discharge detector 24 consist of photosensors of for example, a transparency mold or a reflective mold, and detect the existence of Check P by non-

ntact in each location of the conveyance path 15. The forms alignment member 20 is constituted by the posture which is for making the check P inserted from the insertion opening 12 suspend by the position, for example, projects the conveyance path 15 according to the actuator drive of a solenoid etc., and the posture evacuated from the conveyance path 15 so that **** actuation may be carried out. the 1st -- delivery roller pair 18 and the 2nd -- delivery roller pair 22 consists of roller members of the pair which counters on both sides of the conveyance path 15, respectively, and conveys Check P in forward reverse both directions by one of roller drives. Furthermore, the conveyance path 15 is opened [which roller member], for example and closed by attitude actuation according to the actuator drive of a solenoid etc. while being constituted free [an attitude] to the roller member of another side.

017] The MICR head 17 is for reading the magnetic ink character recorded on the front face of Check P, and effective and the invalid of Check P are judged based on the reading data of the MICR head 17. As a magnetic ink character is shown in drawing 3, it is recorded on the MICR record section 27 in the front face of Check P, and the count number of Check P etc. is contained in record data. In addition, although press member 17a which pushes Check P against the MICR head 17 at the time of reading actuation is prepared in the opposite location of the MICR head 17, press member 17a evacuates from the MICR head 17, and the conveyance path 15 is always opened.

018] The front print head 23 is for printing table writing matters, such as a payee, a date, and the amount of money, on the front face of Check P, and this table writing matter is printed to the table writing field 28 shown in drawing 3. The front print head 23 is a print head of the serial type by which bearing was carried out to carriage, and it realizes dot-matrix printing of 1 or every two or more trains, moving crosswise [of Check P]. In this operation gestalt, although the print head of the dot impact method which imprints the ink on an ink ribbon to Check P is adopted as a front print head 23, the print head of other methods may be adopted.

019] The flesh-side print head 21 is for printing an endorsement matter required as a store side, such as a shopper's authentication number, a date, and the use amount of money, at the rear face of Check P, and this endorsement matter is printed to the endorsement field 29 shown in drawing 3. The flesh-side print head 21 is the thing of a shuttle type, consists predetermined spacing crosswise [of Check P], is equipped with two or more heads, and realizes dot-matrix printing of 1 or two or more trains by head migration within this spacing width of face. In this operation gestalt, although the print head of the dot impact method which imprints the ink on an ink ribbon to Check P is adopted as a flesh-side print head 21, the print head of other methods may be adopted.

020] After compression processing is carried out, the image data which a scanner 25 is for scanning the front face of the printed check P, and was scanned is saved to a host computer, and is used for electronic banking. In this operation gestalt, as a scanner 25, the contact type image sensor (CIS:Contact Image Sensor) is adopted, and where Check P is stuck to the reading side 25a, scanning actuation is performed.

021] The scanner delivery roller 26 is for conveying Check P at the time of scanning actuation, and it conveys this Check P to an exhaust port 13 side, pushing Check P against reading side 25a of a scanner 25. Check P is pushed against the location [location / A / scanner focal] slightly shifted, without pushing Check P against the focal location of a scanner 25, as the scanner delivery roller 26 is shown in drawing 4 at this time. That is, the scanner focal location A has set the scanner focal location A as the location which it is offset by the conveyance upstream or the conveyance downstream to the scanner contact location B of the scanner delivery roller 26, for example, was offset from the scanner contact location B of the scanner delivery roller 26 0.8mm to the conveyance downstream (exhaust port 13 side) in this operation gestalt. Thereby, it is avoided that the thrust of the scanner delivery roller 26 carries out direct action to the scanner focal location A. Therefore, on the occasion of the scan of the check P immediately after printing, the ink coating weight to the scanner focal location A can be reduced, and it becomes possible to prevent the basement of the scanning image by adhesion of ink as much as possible. Moreover, with this operation gestalt, as mentioned above, since the scanner focal location A is offset to the conveyance downstream to the scanner contact location B of the scanner delivery roller 26, it becomes possible to extend the field of Check P which can be tip side scanned. In addition, when the scanner focal location A is greatly offset to the scanner contact location B of the scanner delivery roller 26, Check P may read in the scanner focal location A, and it may float from field 25a, but as mentioned above, since the amount of offset is about 0.8mm, the float of the check P to reading side 25a is pressed down by 0.2mm or less, and there is no **** which causes the debasement of a scanning image.

022] In the above-mentioned scanning actuation, the scanning delivery roller 26 conveys Check P up, and discharges Check P from an exhaust port 13 as it is. At this time, the trailer of the discharged check P is held in the downstream conveyance path 15 of the scanning delivery roller 26. That is, since the trailer (between the scanning delivery roller 26 and exhaust ports 13) of the conveyance path 15 turns to an abbreviation perpendicular direction and the die length of L/6 (L: the die length of Check P) extent is secured, it becomes possible to hold the discharged Check P, and the check P after discharge does not fall from the compound processor 10.

023] The side elevation in which drawing 5 shows a roller evacuation device, and drawing 6 are the top views showing a roller evacuation device. As shown in these drawings, the scanner delivery roller 26 consists of predetermined spacing in the roller pivot 30, and is formed one pair. The roller pivot 30 is supported by the roller evacuation device 32 which the both ends are guided free [order migration] along the guide slot 31, and parts mentioned later. The roller evacuation device 32 is constituted so that the roller pivot 30 may be back lengthened according to the drive of the solenoid 33 for scanner delivery rollers, in connection with it, the scanner delivery roller 26 evacuates from a scanner 25, and the conveyance path 15 is opened. That is, the scanner delivery roller 26 is in an evacuation location at the time of non-scanning actuation, and the connection of Check P to the scanner delivery roller 26 is avoided. moreover, the time of scanning actuation -- setting -- the 1st -- delivery roller pair 18 and the 2nd -- after Check P is conveyed by delivery roller pair 22 to a scanning starting position, cancel evacuation of the scanner delivery roller 26, push Check P against a scanner 25, the scanner delivery roller 26 is made to drive in this condition, and Check P is conveyed.

024] The roller evacuation device 32 is equipped with the solenoid 33 for scanner delivery rollers which the energization force of the presser bar spring 35 energized to a scanner 25 side and this presser bar spring 35 is resisted solenoid], and the presser-foot lever (rotation member) 34 which the roller pivot 30 is supported [lever] free rotation], and carries out attitude migration to a scanner 25, and this presser-foot lever 34 are pressed [solenoid] down, and carries out evacuation actuation of the lever 34, and is constituted. While being able to constitute the roller evacuation device 32 in a compact by the presser-foot lever's 34 using rotation pivot 34a as the supporting point, and using the rotation member in which order rotation is free, and supporting the roller pivot 30 of the scanner delivery roller 26 free [an attitude] by this rotation member, it becomes possible to make attitude actuation smooth. moreover, the presser-foot lever 34 is supported for the roller pivot 30 between the scanner delivery rollers 26 of a right-and-left pair, enabling free rotation. Therefore, the scanner delivery roller 26 of a pair can be energized equally [abbreviation] by the single presser bar spring 35, moreover, the scanner delivery roller 26 of a pair will maintain an abbreviation parallel condition at the time of evacuation actuation, and the conveyance path 15 will be opened certainly.

025] Furthermore, the drive system which makes the scanner delivery roller 26 drive is prepared in the roller evacuation device 32. The drive system of the scanner delivery roller 26 is equipped with the 1st gear 36 prepared in the roller pivot 30 in one between the scanner delivery rollers 26 of a pair, the 2nd gear 37 which is prepared in the presser-foot lever 34 and always gears on the 1st gear 36, and the driving mechanism 39 which transmits the driving force of the motor 38 for scanner delivery to this 2nd gear 37. It becomes possible by the transmission path of roller driving force being constituted by the supporter of the roller pivot 30, being able to perform certainly power transmission to the scanner delivery roller 26 by this, and moreover bringing the press location of the roller pivot 30 by the presser bar spring 35, and the power transmission location to the roller pivot 30 close to rotate the scanner delivery roller 26, without losing press balance.

026] Drawing 7 is the block diagram showing I/O of a control section. As shown in this drawing, the compound processor 10 is equipped with the control section 40 which consists of a CPU, a ROM, RAM, etc. It adds to the form back end detector 16 mentioned above in the control section 40, the MICR head 17, the form tip detector 19, the push-side print head 21, the front print head 23, the form discharge detector 24, a scanner 25, the solenoid 33 for scanner delivery rollers, and the motor 38 for scanner delivery. the 1st -- delivery roller pair 18 and the 2nd -- delivery roller pair 22 the conveyance motor 41 which carries out conveyance actuation, and the 1st -- delivery roller pair 18 the closing motion actuator 42 for the 1st delivery roller pairs which carries out a switching action, and the 2nd -- the closing motion actuator 43 for the 2nd delivery roller pairs to which the switching action of delivery roller pair 22 is carried out, and the closing motion actuator 44 for forms alignment members to which the switching action of the forms alignment member 20 is carried out -- the 1st processing control mode The mode circuit-changing-switch 45 grade which switches (a scanning ****) and the 2nd processing control mode (with no scan) is connected. hereafter, the control procedure of the compound processing control (the 1st processing control mode, the 2nd processing control mode) performed in a control section 40 is explained along with a flow chart.

027] The internal outline side elevation of the compound processor which the internal outline side elevation of the compound processor which the flow chart and drawing 9 drawing 8 indicates the 1st processing control mode to be show the operation explanatory view of the 1st processing control mode to, and drawing 10 shows the time of check insertion, and drawing 11 show the time of MICR reading actuation, and drawing 12 show the time of printing actuation, and drawing 13 are the internal outline side elevation of the compound processor in which the time of scanning actuation is shown. As shown in these drawings, in the 1st processing control mode, insertion waiting of Check P is performed first (S801). this time -- the

t and 2nd delivery roller pair -- 18 and 22 maintain an open condition and the forms alignment member 20 and the scanner delivery roller 26 maintain a closed state (when last time is the 2nd processing control mode, the scanner delivery roller 26 maintains an open condition). If Check P is inserted from the insertion opening 12, insertion of Check P will be judged based on the detecting signal of the form back end detector 16 and the form tip detector 19 (drawing 9 (1), drawing 10). if insertion of Check P is judged -- the 1st -- the magnetic ink character by the MICR head 17 is read, making the conveyance motor 41 drive in the direction of an exhaust port, after making the closed state (S802) and the scanner delivery roller 26 into the open condition (S803) and making the forms alignment member 20 into an open condition (S804) for delivery roller pair 18 (S805) (S806, drawing 9 (2), (3), drawing 11). While after MICR reading termination stops the drive of the conveyance motor 41 (S807) -- the 2nd -- delivery roller pair 22 is made into a closed state. The reading data of the MICR head 17 are transmitted to a host computer, and whether a judgment result is effective and the invalid of Check P are judged. If a judgment result is received from a host computer, it judges whether a judgment result is effective (S808), and when invalid, Check P will perform void check discharge processing (S809), and will end the 1st processing control mode here. On the other hand, Check P performs a flesh-side printing location (S811, drawing 9 (4), (5), drawing 12), driving the conveyance motor 41 in the direction of an exhaust port (S810), when effective. A flesh-side printing location and each below-mentioned location are performed based on the conveyance number of steps from this criteria location on the basis of the detection location by the predetermined detectors 16, 19, and 24 (a conveyance halt is included). After a flesh-side printing location is completed, flesh-side printing processing (S813, drawing 9 (6), (7)) by the flesh-side print head 21 is performed driving the conveyance motor 41 in the direction of insertion opening (S812). After flesh-side printing processing is completed, front printing processing (S816, drawing 9 (10), (11)) by the front print head 23 is performed performing front printing location (S814, drawing 9 (8), (9)) continuously, and driving the conveyance motor 41 in the direction of an exhaust port after that (S815). after front printing processing is completed, while driving the conveyance motor 41 in the direction of insertion opening (S817) -- a scanning starting position setup (S818, drawing 12), (13)) -- carrying out -- the after that and scanner delivery roller 26 -- a closed state (S819) -- carrying out -- the 1st and 2nd delivery roller pair -- 18 and 22 are made into an open condition (S820). Next, scanning and processing (S822, drawing 9 (14), drawing 13) are performed, driving the motor 38 for scanner delivery in the direction of an exhaust port (S821). It makes the forms alignment member 20 a closed state (S825), and ends the 1st processing control mode while it stops the drive of the motor 38 for scanner delivery (S824); when after scanning-and-processing termination makes a discharge judgment (S823) of Check P and judges discharge (drawing 9 (15)). The fall from the compound processor 10 is regulated by holding the discharged check P in the downstream conveyance path 15 while the fall to the upstream conveyance path 15 is regulated with the scanner delivery roller 26. in addition, something for which the conveyance motor 41 is synchronized with a scanner feed rate, and is controlled in the 1st processing control mode -- up to scanning-and-processing termination -- the 1st and 2nd delivery roller pair -- Check may be conveyed for 18 and 22 with a closed state.

[0228] It is the internal outline side elevation of the compound processor which the flow chart and drawing 15 and drawing 14 indicates the 2nd processing control mode to be show the operation explanatory view of the 2nd processing control mode to, and drawing 16 shows the time of removal of a discharge check. it is shown in these drawings -- as -- S1401-S1416 of the 2nd processing control mode -- S801-S816, and abbreviation for the 1st processing control mode -- since it is the same, explanation and the drawing (drawing 10 - drawing 12) of the 1st processing control mode are applied. In the 2nd processing control mode, after front printing processing termination, the conveyance drive to the direction of an exhaust port is continued as it is, a discharge judgment (S1417) of Check P is made, and when discharge is judged, while stopping the drive of the conveyance motor 41 (S1418, drawing 15 (1)), the forms alignment member 20 is made into a closed state (S1419). the check P discharged at this time -- the 1st -- while the fall to that upstream conveyance path 15 is regulated by delivery roller pair 22, the fall from the compound processor 10 is regulated by it by being held in that downstream conveyance path 15. then, removal actuation of Check P -- the detecting signal of the form discharge detector 24 -- being based -- judging (S1420) -- after removal actuation decision and the 1st and 2nd delivery roller pair -- 18 and 22 are changed into an open condition (S1421, drawing 16), and the 2nd processing control mode is ended.

[0229] According to this operation gestalt, like the above the compound processor 10 The conveyance path 15 which holds Check P, and the MICR head 17 which reads the magnetic ink character which has been arranged in accordance with this conveyance path 15, and was beforehand recorded on Check P, The front print head 23 which is arranged in accordance with said conveyance path 15, and prints on the front face of Check P, It is arranged in accordance with said conveyance path 15, and in accordance with said conveyance path 15, it is arranged with the flesh-side print head 21 which prints at the rear face of Check P, and it has the scanner 25 which scans the front face of Check P, and is

stituted. That is, while mitigating an operator's actuation burden by performing continuously a series of processings of the check from reading processing of a magnetic ink character to the scanning and processing of a printing side etc., the time amount which processing takes can be shortened.

030] Moreover, the insertion opening 12 with which it is formed in the end side of the conveyance path 15, and Check P is inserted, It is formed in the other end side of said conveyance path 15, and has further the exhaust port 13 which Check P is discharged. Since said MICR head 17 is arranged rather than print heads 21 and 23 at the insertion opening 12 side and said scanner 25 is arranged rather than print heads 21 and 23 at a discharge 13 side Can perform reading processing of a magnetic ink character in the process in which the check P set to the insertion opening 12 is carried in in equipment, and also Not **** that can take out Check P from equipment, performing scanning and processing, consequently shortens the conveyance path 15, and can attain the miniaturization of equipment but the processing time can be shortened.

031] Moreover, the insertion opening 12 is constituted possible [insertion to an abbreviation horizontal direction] Check P, since an exhaust port 13 is constituted by the abbreviation perpendicular direction possible [discharge] Check P, it can miniaturize equipment as compared with the case where the conveyance path 15 is constituted early, and it can hold the check P which a series of processings ended using the trailer of the conveyance path 15.

032] Moreover, the scanner delivery roller 26 conveyed while it is arranged in the opposite location of a scanner 25 and Check P is pushed against a scanner 25, In order to have further the roller evacuation device 32 in which evacuate this scanner delivery roller 26 from a scanner 25, and the conveyance path 15 is opened, By evacuating the scanner delivery roller 26 at the time of non-scanning and processing, the connection of Check P to the scanner delivery roller 26 can be avoided, and generating of a jam and gap of a delivery pitch can be prevented.

033] Moreover, the existence of scanning and processing can be chosen according to the class of printing medium, a customer's hope, performing continuously two or more processings including scanning and processing, in order have further the mode change-over switch 45 which chooses the 1st processing control mode discharged after scanning Check P, the 2nd processing control mode discharged without scanning Check P, and the 1st or 2nd processing control mode.

034] Moreover, in the printing process by print heads 21 and 23, since Check P is conveyed in the direction of insertion opening, making Check P go within the conveyance path 15, by performing a series of processings, the conveyance path 15 can be shortened and the miniaturization of equipment can be attained.

035] As mentioned above, although 1 operation gestalt of this invention was explained along with the drawing, this invention is not limited to the matter shown in said operation gestalt, but the range where this contractor can perform modification and application in a claim and the publication of a detailed description, and a list based on a well-known technique is included.

036]

Effect of the Invention] While mitigating an operator's actuation burden like the above by performing continuously a series of processings of the check from reading processing of a magnetic ink character to the scanning and processing a printing side etc. according to this invention, the time amount which processing takes can be shortened.

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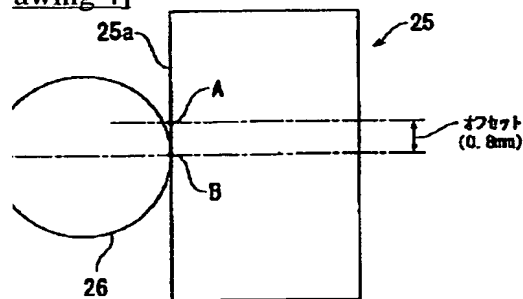
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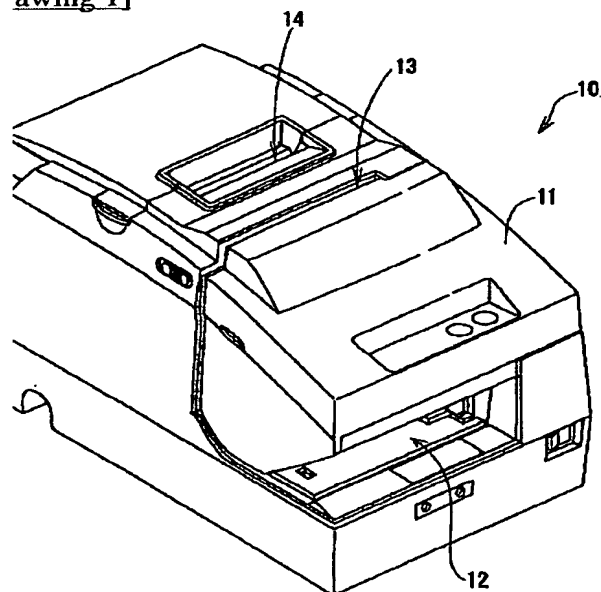
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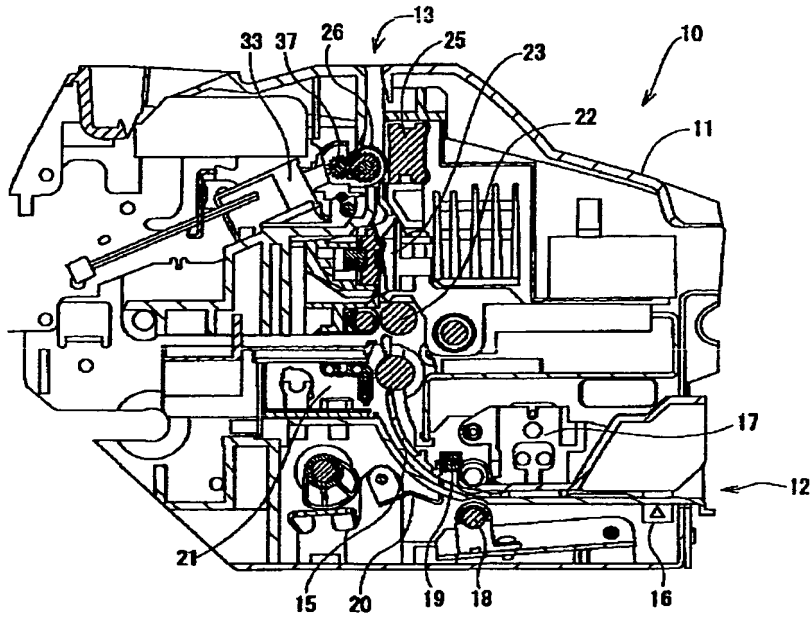
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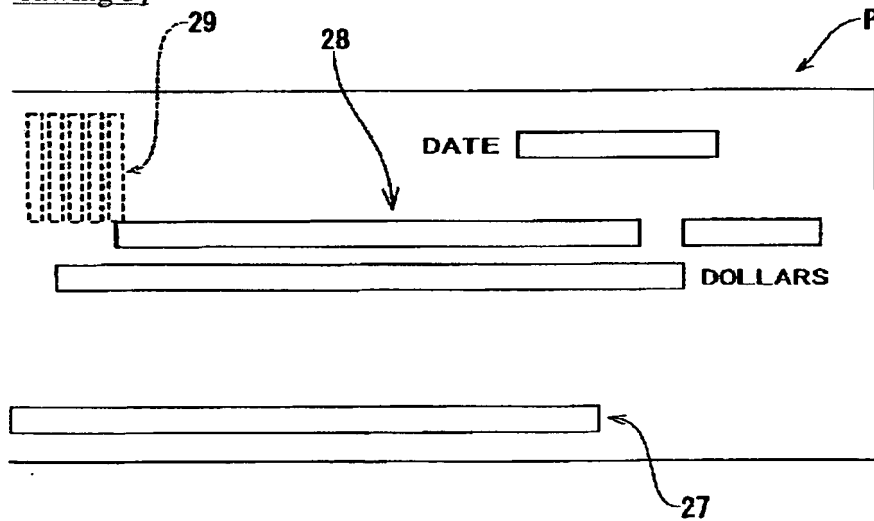
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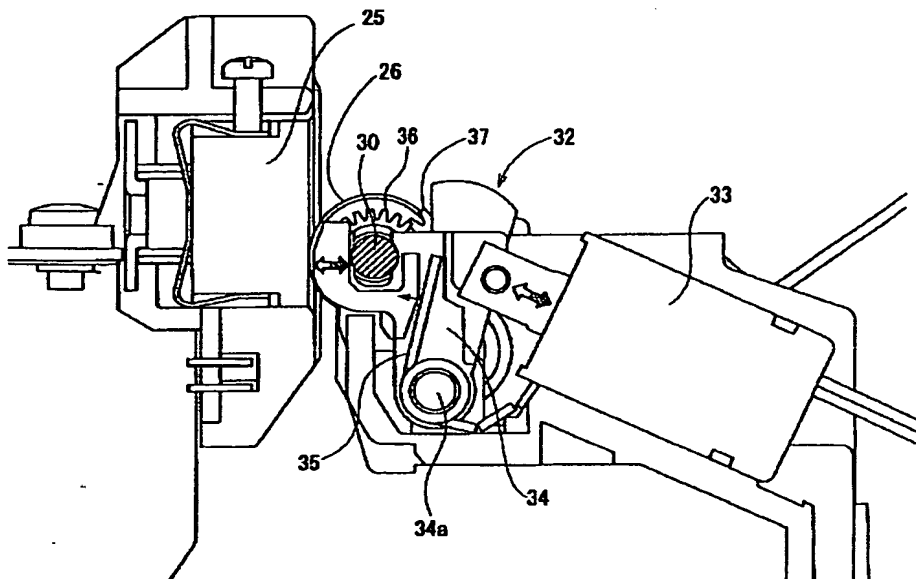
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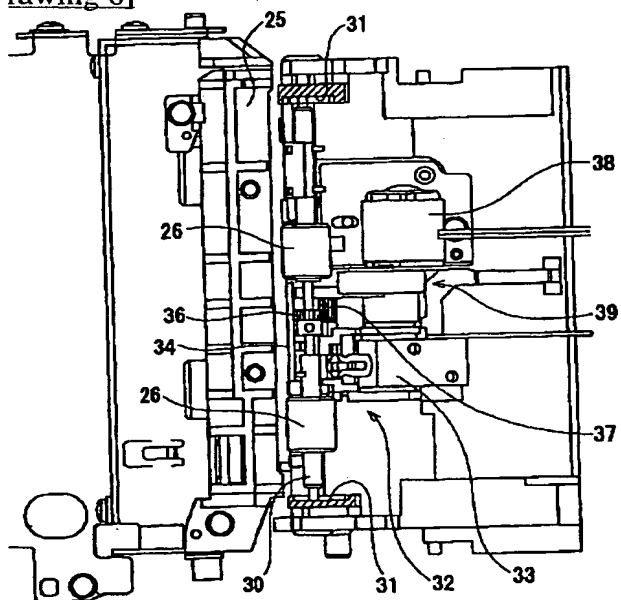
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Drawing 5]

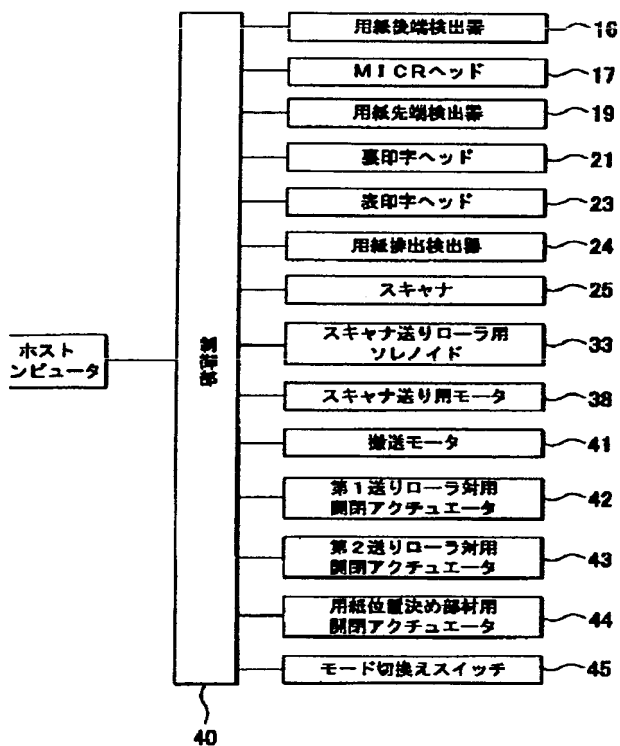


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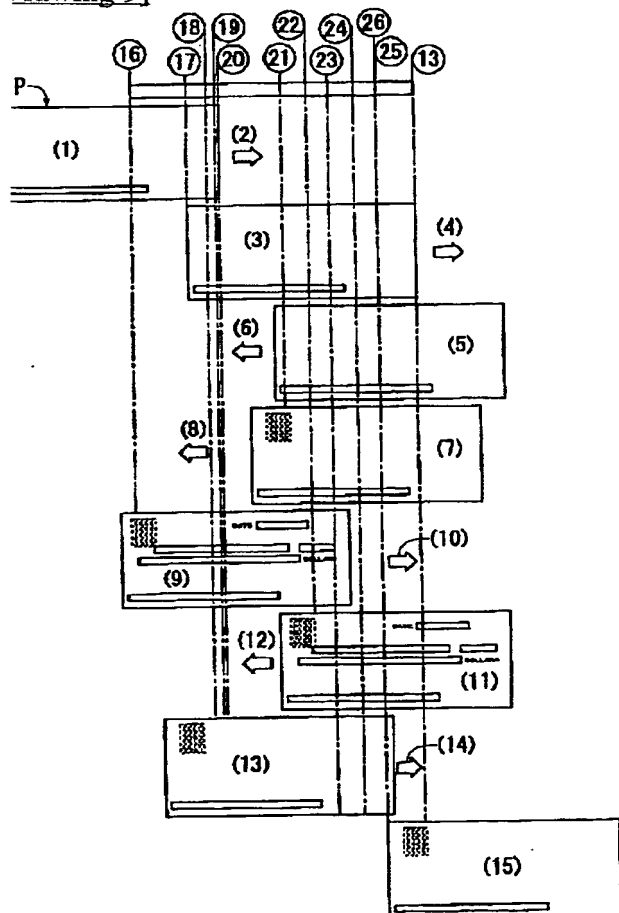


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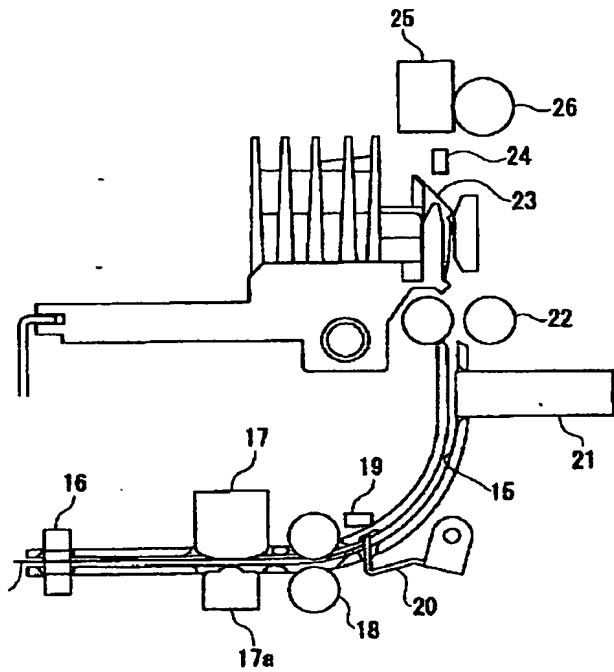
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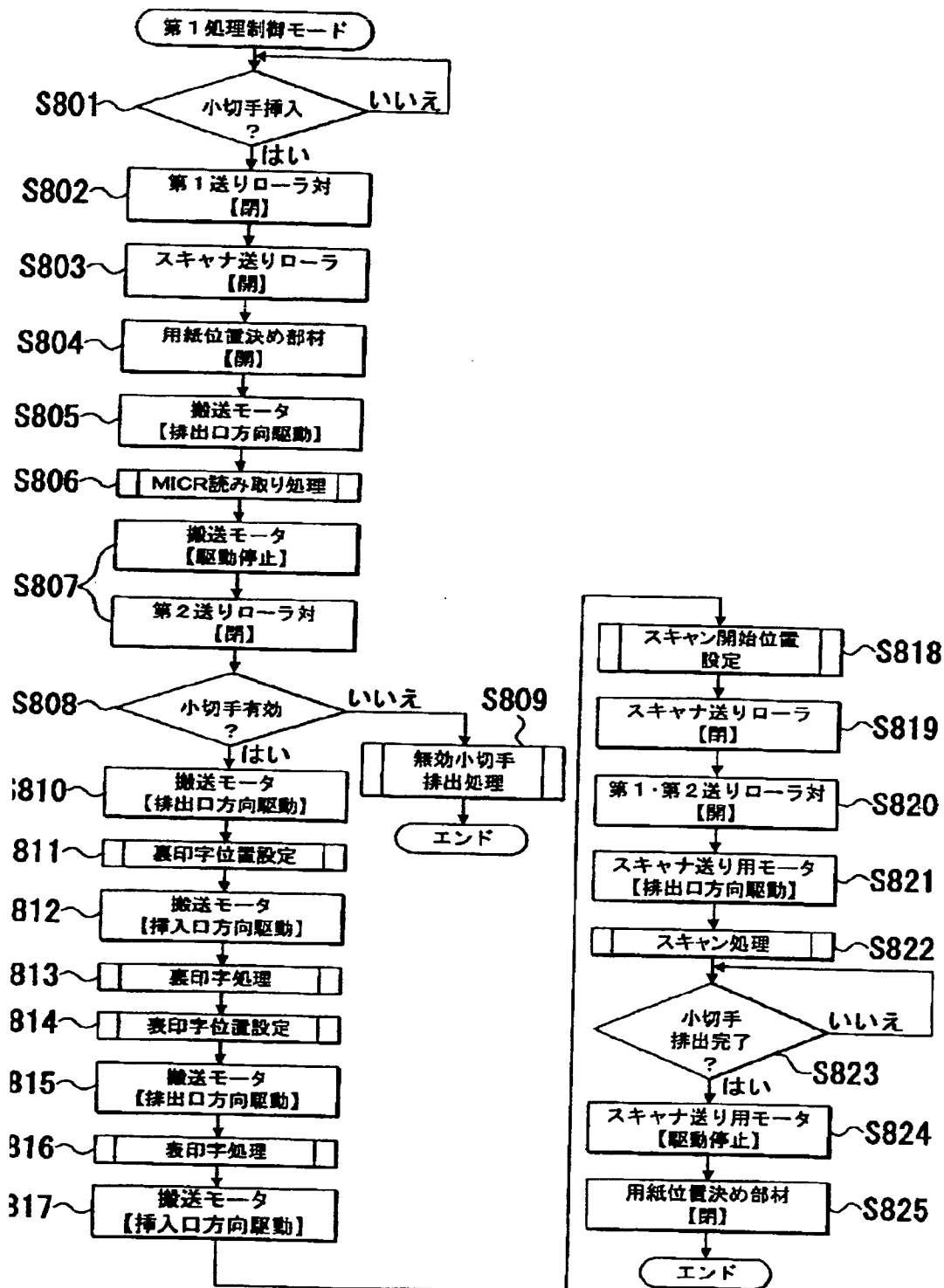
Drawing 9]



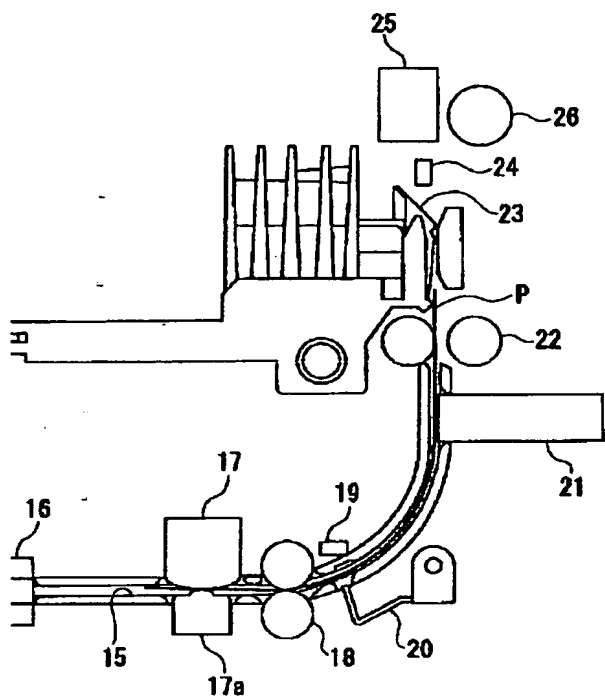
Drawing 10]



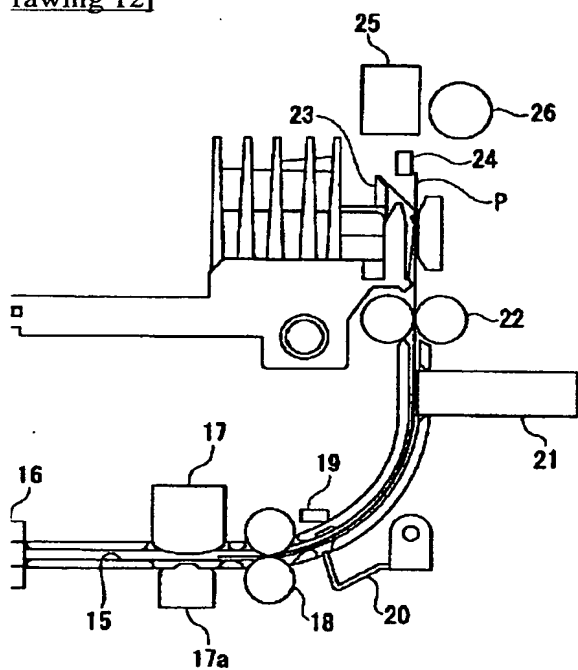
rawing 8]



Drawing 11]

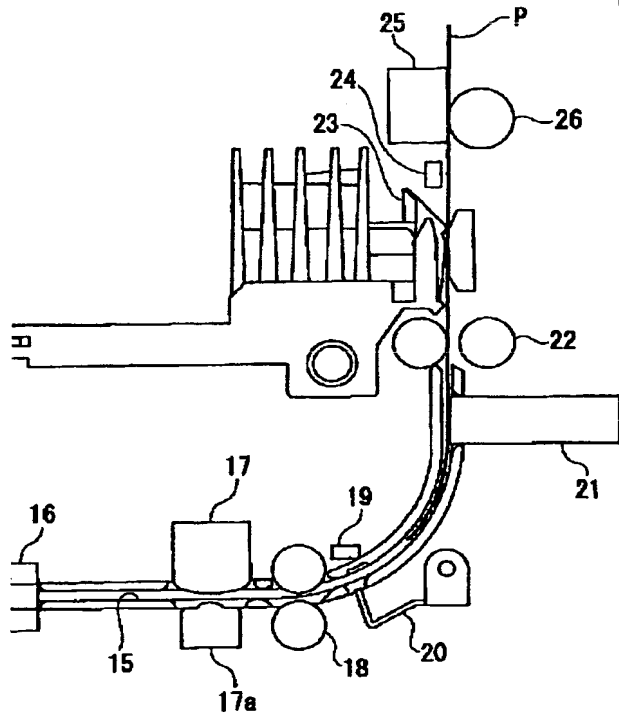


rawing 12]

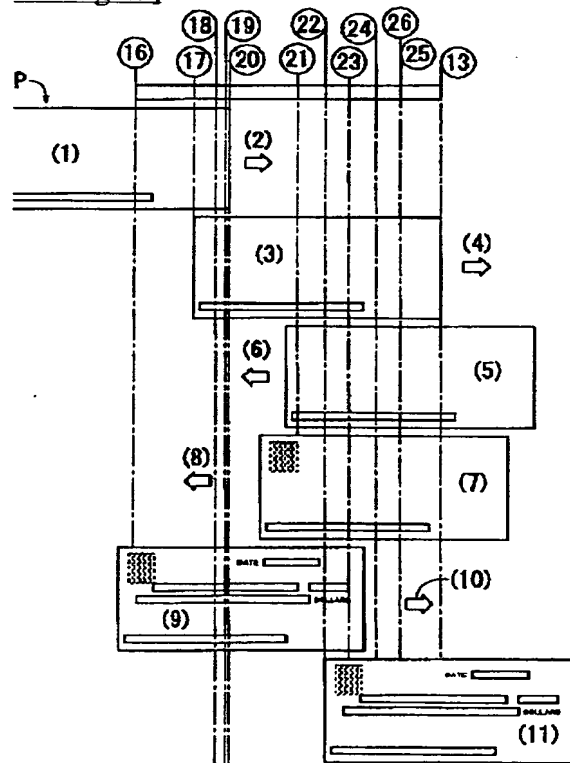


rawing 13]

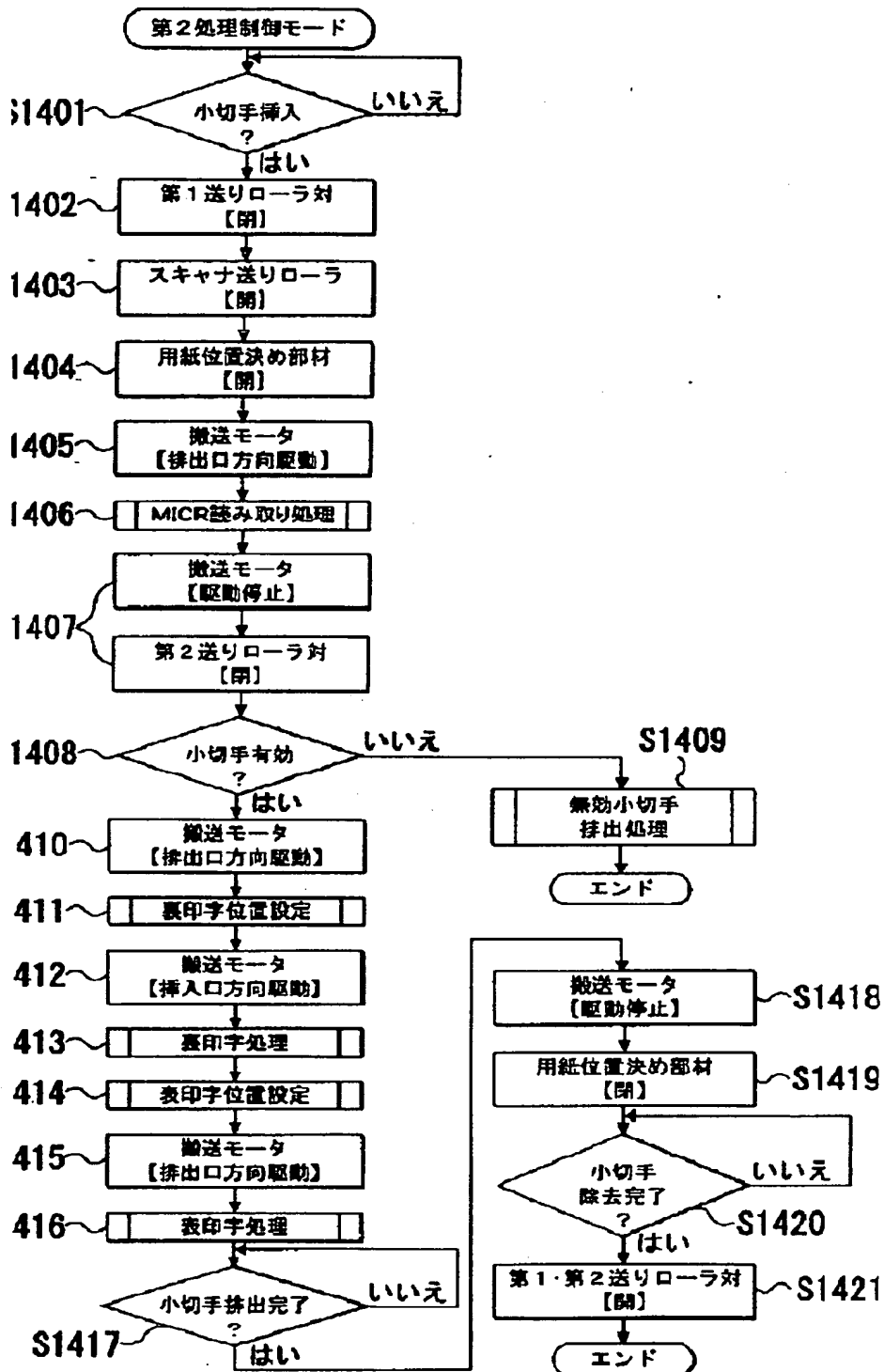
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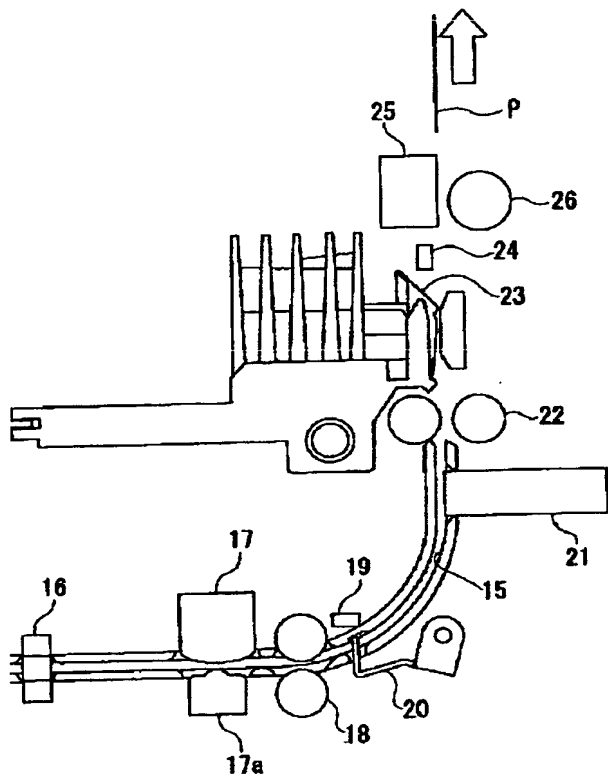
rawing 15]



rawing 14]



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[translation done.]